



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,144	05/18/2006	Jeremy Cannon	2099.00041	9242
Kenneth I Kohn Kohn and Associates 30500 Northwestern Hwy Suite 410 Farmington Hills, MI 48334				
7590 03/10/2011			EXAMINER TANNER, JOCELYN C	
			ART UNIT 3731	PAPER NUMBER
			MAIL DATE 03/10/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,144

Applicant(s)

CANNON ET AL.

Examiner

JOCELIN C. TANNER

Art Unit

3731

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-19, 22-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-19 and 22-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the Amendment filed 29 December 2010. Claims 1, 3-19, 22-30 are currently pending. The Examiner acknowledges the amendments to claims 1, 17 and 27 and cancelled claims 2, 20 and 21.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 3-10, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey (US Patent No. 5,458,633) in view of Riza et al. (US Patent No. 5,993,471) in view of Yoon (US Patent No. 5,752,970) in view of Muschler (US PGPub No. 2004/0191897A1).**

3. Regarding claim 1 and 3-10, Bailey discloses a trocar (10) including a body portion (12) having a proximal and distal end operatively connected to a neck portion extending from said distal end of the body portion, the neck portion including an insert end (16), the insert end, wherein an instrument (17) extends through the sealing means, the trocar including an instrument lumen for receiving an instrument therethrough, the instrument lumen (21) extending from an opening in the body portion to the insert end , a downflow lumen (23) coaxial with the instrument lumen extending from the body portion to an outlet port (22) near or proximate to the instrument lumen, the body portion including an inlet port (19) fluidly connected to the downflow lumen that is capable of enabling flow of an inert fluid from a downflow lumen into the instrument lumen about an

instrument extending therethrough. However, Bailey fails to disclose the insert end having a fluid and airtight chamber, the chamber including sealing means at two ends thereof in a distal end of the neck portion to maintain a fluid and airtight seal in both a neutral and engaged position, the sealing means including slits perpendicular to one another and flowing the fluid out of an outlet port in the body portion.

Riza et al. teach a device capable of receiving an instrument therethrough and a lumen through which a source of inert gas may flow into the abdominal cavity, the trocar including a seal assembly including a chamber of two deformable diaphragms having slits that are perpendicular with respect to other that maintain a seal between the housing and the instruments inserted therein as well as accommodating instruments having different diameters and an o-ring (97) that provides a fluid tight seal (column 6, lines 60-65, column 7, lines 53-56, column 8, lines 5-15). Yoon also teaches a device used to create a portal through the wall of an anatomical cavity, however, Yoon incorporates a valve or seal at the distal end of the device to prevent fluid flow through the device when an instrument is withdrawn and also to provide a sealing relation with instruments of various sizes (column 1, lines 60-67, column 2, lines 10-15, column 5, lines 1-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the device of Bailey with a chamber of two perpendicular seals, as taught by Riza et al., at the distal end of the insert end, as taught by Yoon, to prevent fluid flow through the device and to provide a sealing relation with instruments of various sizes.

Muschler teaches an apparatus including a cannula or "trocar" (60), the trocar having irrigation means that control the delivery of saline or an "inert fluid" [0073] to the distal end of the apparatus, a downflow lumen (520) through which the inert fluid flows through an outlet port (524) of the downflow lumen, into and up through the instrument lumen (76) by aspiration means that removes any substances within the instrument lumen into a collection reservoir (120) and prevents the substances from entering the patient ([0095-0100], Fig. 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the device of the combination of Bailey, Riza et al. and Yoon with aspiration means, as taught by Muschler, to assist in removing debris from within the instrument passage [0100].

4. Regarding claims **14 and 15**, Yoon discloses a trocar formed of a resilient material such as plastic, metal or flexible and elastic materials (column 3, lines 47-50).
5. **Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey (US Patent No. 5,458,633) in view of Riza et al. (US Patent No. 5,993,471) in view of Yoon (US Patent No. 5,752,970) in view of Muschler (US PGPub No. 2004/0191897A1), as applied to claim 1 above, and further in view of Kellogg (US Patent No. 5,968,060).**
6. Regarding claim **11**, the combination of Bailey, Riza et al., Yoon and Muschler discloses all of the limitations previously discussed except for agitating means that are operatively connected to a trocar.

Kellogg teaches an ultrasonic trocar (10) including a handpiece assembly (50), generator (30), braking mechanism (130) and an acoustic assembly (80) through which ultrasonic energy propagates to cause vibration within the acoustic assembly (column 3, lines 17-20, column 11, lines 9-16, Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the trocar of the combination of Bailey, Riza et al., Yoon and Muschler with vibrating means, as taught by Kellogg, to create a penetration opening (column 20-30).

7. Regarding claim 12, Kellogg discloses an automatic transmission component or agitator wherein the transducer assembly is adapted to vibrate at an ultrasonic frequency in response to electrical energy (column 2, lines 9-15).
8. Regarding claim 13, Kellogg teaches an automatic agitator that is an ultrasonic agitator (column 3, lines 16-20).
9. **Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey (US Patent No. 5,458,633) in view of Riza et al. (US Patent No. 5,993,471) in view of Yoon (US Patent No. 5,752,970) in view of Muschler (US PGPub No. 2004/0191897A1), as applied to claim 15 above, and further in view of Banik et al. (US Patent No. 5,256,149).**
10. Regarding claim 16, Yoon discloses a trocar that may be formed of plastic. The combination of Bailey, Riza et al., Yoon and Muschler fails to disclose the plastic being transparent.

Banik et al. discloses a trocar (10) constructed entirely of transparent material (column 11, lines 34-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the plastic trocar of the combination of Bailey, Riza et al., Yoon and Muschler to be transparent, as taught by Banik et al., for the predictable result of exteriorly viewing the interior of a trocar during surgical techniques.

11. Claims 17-19 and 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon (US Patent No. 5,788,676) in view of Riza et al. (US Patent No. 5,993,471) and further in view of Muschler (US PGPub No. 2004/0191897A1).

12. Regarding claims **17 and 27-29**, Yoon discloses the method of maintaining a fluid and airtight environment when introducing a surgical instrument into a patient including the steps of having a trocar (10) having a housing (14) wherein a pair of universal seals (16a, 16b) are positioned in the proximal and distal ends of the chamber to provide an air and fluid tight seal when engaging or not engaging an instrument and inserting an instrument at an insert end located at the proximal end of the device, through a neck portion and an instrument lumen such that the seals engage the instrument to form a seal therewith (column 2, lines 37-40, column 3, lines 1-17, column 4, lines 1-10, column 7, lines 19-22, Fig.2). However, Yoon fails to explicitly disclose perpendicular slits in the diaphragms.

Riza et al. teaches a trocar assembly through which inert gas is introduced into an abdominal cavity to expand the abdomen, the trocar assembly including two

deformable diaphragms having slits that are perpendicular with respect to other (column 5, lines 35-37, 49-65, column 7, lines 53-56, column 8, lines 5-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided consecutive diaphragms having perpendicular slits to enhance sealing structure (column 7, lines 55-57).

However, the combination of Yoon and Riza et al. fails to disclose flowing an inert fluid through a downflow lumen in the trocar, flowing the fluid through an outlet port of the downflow lumen, into an instrument lumen and up through the instrument lumen, thereby removing any substances in the instrument lumen and preventing the substances from entering the patient.

Muschler teaches an apparatus including a cannula or "trocar" (60), the trocar having irrigation means that control the delivery of saline or an "inert fluid" [0073] to the distal end of the apparatus, a downflow lumen (520) through which the inert fluid flows through an outlet port (524) of the downflow lumen, into and up through the instrument lumen (76). by aspiration means which removes any substances in the instrument lumen thus preventing the substances from entering the patient, the instrument lumen being coaxial with the downflow lumen ([0095-0100], Fig. 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the device of the combination of Yoon and Riza et al. with a downflow lumen that delivers fluid into an instrument lumen, as taught by Muschler, to assist in washing debris into the opening and into the instrument passage [0100].

13. Regarding claims **18 and 19**, Yoon discloses an instrument inserted through a series of resiliently engaging deformable diaphragms (16a, 16b) situated at each end of the chamber (column 3, lines 5-16) and an O-ring (184) (column 7, lines 45-60, column 9, lines 5-15).

14. Regarding claim **22**, Yoon discloses the method step of puncturing the abdominal wall and inserting the trocar (10) through the incision (column 9, lines 4-8).

15. Regarding claim **23**, Yoon discloses the method step of creating an incision using a needle or "obturator" (column 9, lines 4-8).

16. Regarding claim **24**, Riza et al. teaches the method step of creating an incision using a stylet or "scalpel" (column 3, lines 59-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a stylet to create an incision using the trocar of Yoon, as taught by Riza et al., since it was well known in the art to make an incision using a scalpel.

17. Regarding claims **25 and 26**, Yoon discloses the method of stabilizing the trocar in the incision by engaging the endcap (54) of the chamber (Fig. 2).

18. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon (US Patent No. 5,788,676) in view of Riza et al. (US Patent No. 5,993,471) and in view of Muschler (US PGPub No. 2004/0191897A1), as applied to claim 27 above, and further in view of Kellogg (US Patent No. 5,968,060).

19. Regarding claim **30**, the combination of Yoon, Riza et al. and Muschler discloses all of the limitations previously discussed except for agitating the trocar.

Kellogg teaches an ultrasonic trocar (10) including a handpiece assembly (50), generator (30), braking mechanism (130) and an acoustic assembly (80) through which ultrasonic energy propagates to cause vibration within the acoustic assembly (column 3, lines 17-20, Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the trocar of Yoon, Riza et al. and Muschler with vibrating means, as taught by Kellogg, to create a penetration opening (column 20-30).

Response to Arguments

20. Applicant's arguments with respect to claims in view of Jacobson have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments regarding claims 17-19 and 22-30 in view of Yoon, Riza et al. and Muschler have been fully considered but they are not persuasive. The Applicant contends that there is no purpose to keeping the irrigation fluid within the device of Muschler and not exposed to the patient. However, the claim requires the method step of removing a substance from the instrument lumen and preventing the substance from entering a patient. Muschler teaches the use of an aspiration source which applies suction to the instrument passage and draws substances such as cells, fragments, blood from the puncture site thus preventing the substances from entering the patient. The irrigation fluid also is removed and assists to carry the substances into the passage and up to the collection reservoir [0028-0030].

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOCELYN C. TANNER whose telephone number is (571)270-5202. The examiner can normally be reached on Monday through Thursday between 9am and 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anh Tuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jocelin C. Tanner/
3/08/2011
Examiner, Art Unit 3731

/TODD E. MANAHAN/
Supervisory Patent Examiner, Art Unit 3776